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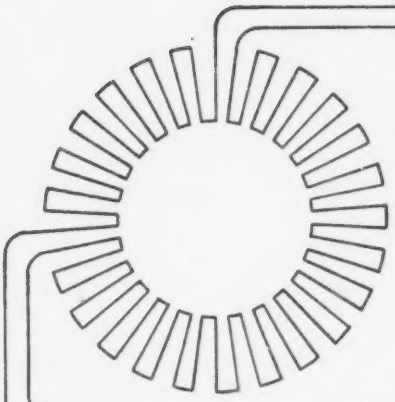

# Center for Human Resource Research

Racial Equity, Racial Equality, and Reverse Discrimination

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# RACIAL EQUITY, RACIAL EQUALITY, AND REVERSE DISCRIMINATION

## ABSTRACT

This study examines the relationship between racial equity in labor market processes and racial equality in future labor market rewards. In particular, a regression standardization procedure is used to project the degree of racial inequality in earnings that would exist among men at various future points in time based on three different sets of assumptions about attainment processes in labor market and educational institutions. The most important results suggest that even if racial discrimination were eliminated immediately in labor market and educational institutions, it would take almost 50 years for the black-white earnings ratio to reach .95. I argue that this incompatibility between equity and equality needs to be considered more explicitly both by those who advocate a colorblind labor market and those who advocate preferential treatment for blacks.

# RACIAL EQUITY, RACIAL EQUALITY, AND REVERSE DISCRIMINATION

## Introduction

Labor market outcomes (e.g, pay, job authority, job security) can be conceptualized as functions of certain inputs (e.g., ability, credentials, experiences), and the processes by which inputs are transformed into outcomes. Thus, it is axiomatic that changes in labor market processes will have an impact on future distributions of labor market rewards; however, the way these changes affect outcomes is not well understood. This is indeed unfortunate since labor market processes are not static. In particular, there is mounting evidence that the degree of racial discrimination in the labor market is diminishing. Consequently, it is important to examine the impact that equitable labor market processes would have on racial inequality in future labor market outcomes.

A better understanding of this relationship would be very helpful in formulating and evaluating anti-discrimination policies. The elimination of discrimination against blacks has been a major goal of public policy in the United States in recent years. However, in the implementation of this policy, many difficult issues have arisen. One of the most difficult, and one that is becoming increasingly important, is reverse discrimination. Some argue that equal opportunity should be the goal of public policy and that just as employers should not discriminate against blacks, neither should they show preference to them. Others argue that if there is to be racial equality in outcomes, affirmative action programs giving preference to blacks are necessary to overcome the effects of previous discrimination.

NOTE: A set of Appendix Tables showing some of the details of the analysis described in this paper can be obtained from the author upon request.

One purpose of this paper is to examine the degree to which the two goals of equity and equality are compatible.

The following two sections present a discussion of conceptual and social issues concerning the relationship between racial equity in the labor market and racial inequality. Next is a description of the empirical analysis of earnings inequality among black and white men, followed by the results discussed in terms of the conceptual and social issues described earlier. Before concluding, I perform an additional experiment to examine the implications of racial equality in educational attainment on the relationship between labor market equity and earnings inequality.

## The problem and conceptual issues

Throughout this paper, a distinction is made between equity, which refers to a process, and equality, which refers to a set of outcomes. Racial equity, or the absence of racial discrimination, is defined to exist when labor market processes operate the same for blacks and whites. Thus, racial equity is similar to the notions that there is no longer a cost to being black (Siegel, 1965), that inheritance of race is no longer a problem (Duncan, 1969), or that race is no longer significant (Wilson, 1978). Racial equality is defined to exist when blacks and whites have the same distribution of labor market outcomes. Given this framework, an important question is, If labor market processes were suddenly to become equitable, what levels of racial inequality would still be implied by the present level of racial differences in input characteristics? Put another way, If inheritance of race were no longer significant, what would be the implications of inheritance of poverty or class for the future levels of racial inequality?

This question is becoming increasingly important, and will become more so as labor market processes become mor equitable. Regarding changes in labor market processes, some observers have argued that racial discrimination is diminishing (e.g., Wilson, 1978; Freeman, 1973). Others argue that there has been little or no improvement in the opportunities of blacks relative to whites (e.g., National Urban League, 1980; Lazear, 1979). Most of the empirical evidence suggests that racial discrimination has diminished, at least in terms of earnings and occupational status (e.g., Farley, 1977, 1979; U.S. Commission on Civil Rights, 1978; Daymont, 1980a; 1980b; Johnson and Sell, 1976). Of at least equal importance to this evidence on recent trends is a consideration of the prospects for the future. Such prospects are extremely difficult to assess because changes in racial discrimination are a complex function of a number of factors including government action, the attitudes of whites toward blacks, and black political power (c.f. Burstein, 1979). However, there is some reason for optimism. First, it appears that the leaders of the government's equal opportunity efforts are learning from past experiences and are reorganizing their agencies so that they can be more effective (U.S. Commission on Civil Rights, 1977). For example, in 1978 the Office of Federal Contract Compliance Programs assumed enforcement and policymaking responsibilities for the entire contract compliance program. Previously, these responsibilities had been carried out by a number of other federal agencies--many of which seemed to give rather low priority to enforcing equal employment opportunities on government contract work. Second, the increasingly favorable attitudes of whites toward blacks and the greater political

power possessed by blacks portend a continued improvement in the opportunities of blacks relative to whites (e.g., Freeman, 1977). More generally, we may expect that as the process of industrialization continues and as our society becomes more rational, labor market processes will become more universalistic and race will become less important (Levy, 1966; Featherman and Hauser, 1978:382). Of course, any optimism must be tempered by a realization that racially equitable labor market processes are not imminent. However, we should not wait until equity is close at hand before we begin to examine the effects that equitable labor market processes would have on future levels of racial inequality.

The degree of inequality that would exist under conditions of racial equity in the labor market will depend upon the level of racial differences in labor market inputs. For men who are already in the labor market, many important input factors such as education and pre-labor market experiences have already been determined and will not be affected by racial equity. In addition, attainments of these men have already been affected by discrimination at the time of labor market entry. Thus, racial equity may be expected to have only a limited impact on racial inequality among men already in the labor market.

The level of racial differences in inputs for future labor force participants will be a function of a number of factors, two of the most important of which are racial discrimination in educational institutions and the unfavorable socioeconomic backgrounds of blacks resulting from previous discrimination. If we consider the case of racial equity in educational institutions as well as in the labor market, then the primary

factor inhibiting racial equality will be the unfavorable background environments of future black cohorts. The background environment of one generation is, in part, a function of the labor market success of the previous one. Thus, if racial discrimination in labor market and educational institutions were eliminated, racial differences in outcomes would diminish for labor market participants; this diminution would in turn result in smaller racial differences in background environments in the next generation. If other factors (e.g., the labor market effects of housing segregation) are not important, then this will lead to an eventual convergence to racial equality; however, it is not at all clear how long this would take.

The issue of reverse discrimination

The debate over the issue of reverse discrimination can be viewed as a political struggle between individuals and groups who justify their position by appealing to different values, beliefs, and legal opinions (c.f., Gross, 1977: 4). Opponents of reverse discrimination argue that it is equality of opportunity, not equality of outcomes, that constitutes a basic value of our society. Expressions of the value of equality of opportunity are found in many forms, ranging from formal statements in the Constitution and other public documents to informal slogans referring to the United States as a land of opportunity. Thus, it is not surprising that as the Civil Rights movement has gained momentum, statements of purpose have usually been phrased in terms of eliminating discrimination or equalizing racial differences in opportunities, rather than equalizing differences in outcomes. Of particular importance is Section 703(d) of the Civil Rights Act of 1964 which states, "It shall be unlawful employment practice...to discriminate against any individual because of

his race..." This line of reasoning leads to the conclusion that affirmative action plans operating to eliminate racial discrimination are appropriate and necessary, but that affirmative action plans giving preferences to blacks are not.[1] Advocates of this policy tend not to address the issue of equality as defined here, i.e., the question of what effect their policy would have on the rate of convergence of labor market rewards. When this issue is addressed, the usual argument is simply that the value of equity takes precedence over equality.

Proponents of affirmative action programs giving preferential treatment to blacks argue that had it not been for discrimination in the past, racial equality would exist today, and that it is necessary to give preference to blacks in order to neutralize the effects of previous discrimination. Analogously to opponents of reverse discrimination, proponents of this point of view tend not to confront the issue of equity. Often their strategy is to pose the issue as a choice between affirmative action programs which give preferences to blacks or the lack of affirmative action programs (resulting in discrimination against blacks).

Questions about the rate of convergence toward equality given labor market equity have been an important aspect of this debate. For example, a reading of the recent Weber decision by the U.S. Supreme Court indicates that a belief that the rate of convergence toward equality would be too slow was instrumental in its decision to permit voluntary affirmative action programs giving preferences to minorities. It is important to note that despite this decision, the issue of reverse discrimination in the labor market is far from being decided. The Weber case pertained only to certain aspects of this issue, and other reverse discrimination cases are working their way through the courts. In addition, the Congress

and the Executive branch will play an important role in determining future policy on this issue. The degree to which future policy decisions either support or reject reverse discrimination is likely to depend in part on the beliefs decision makers have about the rate of convergence toward equality given an equitable labor market.

## Previous empirical research

Given the importance of the relationship between racial equity and racial equality, it is surprising that it has been examined in only one previous empirical study. Using a Markov model of intergenerational occupational transmission, Lieberson and Fuguitt (1967) found that if racial discrimination in the job market were eliminated, there would be a sharp decline in racial differences in occupational distributions after only one generation; however, it would take several generations before parity would be reached. This study will expand on their effort in a number of ways; one important difference is that the present study uses models of intragenerational labor market processes in order to be able to assess the nature of changes that occur more rapidly than over a generation.

## Analysis

The basic analytical problem is similar to that faced by Lieberson and Fuguitt (1967); that is, to project future levels of labor market outcomes for black and white men under different assumptions about labor market processes. Since Lieberson and Fuguitt (1967) were concerned with an intergenerational model of mobility among categories of occupations, a discrete time, discrete state Markov model was a natural choice for making projections. Since this paper deals with an intra-

generational model of changes in a continuous variable (earnings), a regression standardization approach is used to make projections.

In general, this approach can be thought of as having two steps. The first step is to estimate the parameters of a model of earnings attainment assuming racial equity (or inequity). Then these parameter estimates are incorporated into a simulation model to project future levels of mean earnings for blacks and whites.

Estimating the parameters of equitable intragenerational labor market processes. Data for this analysis were drawn from the Michigan Panel Study of Income Dynamics (Morgan, selected years). Restricting the analysis to men, I began by dividing the sample into six 8-year age groups: 17-24, 25-32, ..., 57-64. Then, the general strategy for estimating the parameters of an equitable labor market process is to estimate the following equation for pooled samples of black and white men in each group:

$$E_{77,ij} = \alpha_j + \beta_j E_{69,i,j-1} + \underline{\gamma}_j' \underline{X}_{ij} + \upsilon_{ij} \qquad (1)$$

where $E_{77,ij}$ is the mean earnings in 1976 and 1977 for individual i in age group j; $E_{69,i,j-1}$ is the mean earnings for individual i in 1968 and 1969 when he was in the next youngest age group; $\underline{X}_{ij}$ is a vector of labor market input and control variables; $\upsilon_{ij}$ is a residual term; and $\alpha_j$, $\beta_j$, and $\gamma_j$ are the parameters of the intragenerational earnings attainment process for age group j. I use the mean level of earnings for two years for each of the earnings measures (i.e., 1976 and 1977 for $E_{77}$ and 1968 and 1969 for $E_{69}$) to increase their reliability. The labor market input and control variables that are included in $\underline{X}$ are

education (EDUC), father's earnings (DAD), southern origins (SOUTH), farm origins (FARM), AGE, and RACE.[2] When this model is used to make projections based on an equitable labor market, the RACE parameter is not included. However, it was included in the estimation model so that the coefficients of other variables would not be biased due to the association of these variables with race. For example, in an inequitable labor market, such as the one that existed between 1968 and 1977, part of a measured effect of father's earnings not controlling race would reflect the fact that blacks tend to have low scores on father's earnings and are discriminated against. So I include race to obtain an estimate of the effect of father's earnings net of this discrimination component, which of course would not exist in an equitable labor market.

With the exception of the two youngest age groups, the earnings equations were estimated using samples of men who were approximately full-time workers in both 1968-69 and 1976-77.[3] However, such a restriction in the two youngest age groups would preclude the opportunity to model earnings attainment near the time of labor market entry. This would be very unfortunate, since this is a time when differences in education and social background play an especially important role in determining earnings. In order to model earnings attainment at the time of labor force entry, an earnings equation was estimated separately for two "tracks" of men in the two youngest age groups. Track 1 consists of those men who were not working full-time by the time they reached ages 17-24, and track 2 consists of those men who were working full-time at these ages. Thus track 2 men aged 25-32 in 1977 have values for $E_{69}$ and equation (1) is estimated for them as is. Track 1 men aged 25-32 in 1977 and track 2 men aged 17-24 in 1977 do not have values for $E_{69}$ and therefore this

variable is eliminated from the model. Thus, for these two samples, the process of earnings attainment is modelled at the time of labor market entry. Track 1 men aged 17-24 in 1977 have not yet entered the labor market and are not analyzed. Consequently, to be completely accurate, all variables and (for the two youngest age groups) parameters in the text should have an additional subscript to indicate that the analysis is disaggregated by track. However, these subscripts have been deleted to simplify the presentation.

As will be clear in the next section, it was also necessary to estimate parameters of the educational attainment processes for the two youngest age groups. To do this, education was expressed as a linear regression function of father's earnings, southern origins, farm origins, and age for pooled samples of blacks and whites.[4] Note that there is no race term in this equation. This was omitted because when the process of educational attainment was modelled separately for each race, blacks and whites with similar levels of explanatory variables had similar levels of expected educational attainment. Moreover, when a race term was included in equation (2), its effect was not significant for any combination of track and age group.

For each sample, the earnings and education equations were estimated by ordinary least squares.

## Projecting earnings into the future

Estimating the equations described in the previous section yields estimates for $\alpha_j$, $\beta_j$, and $\underline{\gamma}_j$ where j refers to age group. To predict the mean level of earnings for 1984-85 ($E_{85}$) for cohort k and race r,

I calculate

$$\hat{E}_{85,kr} = \hat{\alpha}_j + \hat{\beta}_j \bar{E}_{77,kr} + \hat{\gamma}_j' \bar{X}_{85,kr} \qquad (2)$$

where j refers to the age group of cohort k in 1985 and the bar over E and $\underline{X}$ indicate the mean. The variables in $\bar{\underline{X}}$ are the same as those described in the previous section except that the variable RACE was excluded to simulate an equitable labor market process. It is then straightforward to calculate the mean earnings for each subsequent period in the future. In general:

$$\hat{E}_{tkr} = \hat{\alpha}_j + \hat{\beta}_j \bar{E}_{t-1,kr} + \hat{\gamma}_j' \bar{X}_{tkr} \qquad (3)$$

where j refers to the age group of cohort k in time period t.

In order to use equation (3) to calculate future levels of expected earnings, the values of explanatory values in $\bar{\underline{X}}$ need to be specified. Let us first consider the variables of southern origins, farm origins, and age. For existing cohorts, the values for these variables are simply calculated from the data. For cohorts who will enter the labor market in the future, subjective judgments were made as to reasonable values for these variables.[5]

For existing cohorts, values for father's earnings (DAD) were also calculated from the data. The values of father's earnings for white members of future cohorts were obtained by projecting a linear trend across existing cohorts.[6] Values for father's earnings for black members of future cohorts were calculated so that the ratio for blacks and whites would equal the earnings ratios for men who were about the age as the members' fathers. Assuming that the average age of fathers is about 28 years, and that there is a rather wide age range among fathers,

a weighted average of the (expected) earnings of men 2, 3, 4, and 5 cohorts older was taken as representative of the fathers of the members of a future cohort.[7] For each cohort, the variables father's earnings, southern origins, and farm origins remain constant and age is simply incremented by 8 as the cohort evolves through each successive age group.

For all existing cohorts except the youngest, the values for education were calculated from the data. For the youngest existing cohort, and for future cohorts, the values for education were calculated as a linear regression function of the background and age variables.[8] Because many men do not complete their education by the time they have reached the age of the youngest age group (17-24), the education function is estimated twice for each cohort--once when its members are in the age group 17-24, and then again when they are in the age group 25-32. The level of education for the cohort is then assumed to remain unchanged as it evolves through successively older groups.

Once the mean values for the explanatory variables in $\underline{X}$ for future cohorts had been predicted, they, along with values for present earnings and the parameters for equitable labor market processes, were substituted into equation (3) to obtain predictions of expected earnings for each future time period through 2105. For all cohorts younger than the one aged 25-32 in 1977, there were separate predictions for each track; thus, a weighted average of the two tracks was calculated to obtain expected levels of earnings for blacks and whites.[9] Then, I calculated the black-white ratio of these earnings levels. Finally, as a summary measure, the age group specific earnings ratios were aggregated to yield a black-white earnings ratio for each year.[10]

Until this point, the discussion has focused on procedures used to estimate and make projections based on labor market equity. Projections were also made based on the assumption that the degree of labor market inequity that existed between 1968 and 1977 would persist indefinitely. To allow for racial inequalities in labor market processes during this period, the earnings equations were estimated separately for blacks and whites. Then the parameters from the race specific equations were used to project earnings. That is, the parameters from the black (white) earnings equations were used to project future levels of black (white) earnings in equation (3).[11]

The results of this analysis should be taken provisionally. This is partly due to the simplifying assumptions that were made in conducting the analysis. Some possible implications of one of these assumptions, time homogeneity, will be briefly discussed in the next section. Also, the analysis does not consider racial differences in nonemployment. In addition, no attempt was made to account for the possible effects of measurement error or sample selection bias. Further research needs to be done to relax, or at least test for sensitivity to, these assumptions.

Despite its rather large overall size, the sample used in this study includes a limited number of blacks in the older age groups. Thus, the regressions for blacks in the older age groups are quite sensitive to sample variability.[12] This probably explains some of the instability in the projected earnings ratio under the inequity assumption. Since the projections under the assumption of labor market equity were based on regressions estimated on pooled samples of blacks and whites, these projections are much less sensitive to sampling variability.

Results and discussion

Let us begin by looking at the results for the inequitable labor market in Table 1 and the lower projection in Figure 1. (Age group specific results are presented in Appendix Table A.4). In an equitable labor market the estimated black-white earnings ratio climbs from .75 in 1977 to .80 in 1985 and eventually levels off to about .78. Although these results need to be interpreted with caution, they do suggest something about the period 1968 to 1977, since this projection was based on the labor market processes that prevailed during this period. On the one hand, these earnings ratios represent a significant improvement over the earnings ratios, about .62, that existed at the end of the 1960's (Freeman, 1973; Smith and Welch, 1978; Farley, 1977). Of course, these results do not indicate the degree to which this change is a direct result of changes in labor market processes. However, other research (e.g., Farley, 1977;1979; Daymont, 1980a; 1980b; U.S. Commission on Civil Rights, 1978) provides strong evidence that changes in racial differences in inputs cannot account for such a change in outcomes and that there was a substantial reduction in labor market discrimination in terms of earnings during this period. On the other hand, these projections remind us that substantial inequities remain. Even assuming an equitable educational process, the labor market processes operating between 1968 and 1977 imply a long run black-white earnings ratio of only .78.

(Table 1 and Figure 1 about here)

The pattern of the earnings ratios under the assumption of labor market equity (Table 1 and the higher solid line in Figure 1) conforms to what one might expect: there is a significant initial improvement

and it continues, but its magnitude diminishes over time. The important question is, How fast does the black-white earnings ratio converge toward one? Unfortunately, it appears that convergence is not very fast: starting from an initial value of .75 in 1977, it takes 16 years for the ratio to reach .84 and almost 50 years for it to reach .95.

A look at the age group specific earnings ratios (Table 2) suggests that a major reason for the slow rate of change is that men who had entered the labor market prior to the achievement of labor market equity will remain a substantial part of the labor force for some time. In particular, for each age group there is a substantial increase in the earnings ratio in the period when it is first occupied by men who entered the labor market after racial equity had been imposed. However, in no way does this completely explain the lack of a rapid convergence toward racial equality. In particular, we can see that even among men who entered the labor market 8 to 16 years after it had become equitable, blacks attain significantly lower earnings than whites, especially in their middle years.

These results provide strong evidence that even if we could eliminate the disadvantage that blacks suffer due to labor market discrimination, they still would be at a disadvantage due to their relatively unfavorable background for a long time to come. This can be illustrated by looking at Table 3, which shows the black-white ratio for father's earnings for each future cohort. We can see, for example, that the blacks in the cohort aged 17-24 in 2001 would have fathers who earned only about 83 percent as much as the fathers of whites. Even with equitable educational and labor market institutions, the less favorable backgrounds of blacks in this cohort lead to their attaining measurably lower earnings than whites throughout their lifetime: the estimated black-white earnings

ratio across the years (2001 to 2041) when most of these men will be in the labor force is .98, .96, .92, .94, .95, and .96 respectively (Table 2). This implies that there would be black members of the labor force who suffer a nontrivial disadvantage due to previous discrimination more than a half century after the labor market had become equitable.

(Table 2 and 3 about here)

It should be noted that my analysis of the implications of racial equity on future racial equality assumes that nonracial aspects of the process of earnings determination that were present between 1968 and 1977 will persist over time. Thus, I assume that the linkage between earnings at one point in the life cycle and factors such as previous earnings, education, and background remain the same. However, there is some evidence (e.g., Featherman and Hauser, 1978) that aspects of these processes are changing. For example, it appears that the linkage between background and earnings may be weakening. To the extent that such a change in process were significant, it would suggest that the unfavorable background of blacks would be less of a disadvantage in the future and that there would be a somewhat more rapid convergence toward equality than indicated by these results. In addition, it should be remembered that the labor market models used to make these projections are a function of the stagnant economic conditions that were present during much of the 1970's.[13]

These results have implications for the evaluation of government programs, whether their goals are to eliminate discrimination or to produce racial equality. To the extent that the goal is to produce

racial equality in labor market outcomes, it is clear that it cannot be achieved in the near future without reverse discrimination. To the extent that reverse discrimination is not considered a viable policy option on philosophical grounds and that racial equity is the goal of these programs, these results indicate that a substantial degree of racial inequality will remain even if equity is attained. These results raise the important issue of whether such inequalities are justified. And furthermore, if they are not, what are the possibilities and problems for other remedies, such as reparations, for reducing the economic inequality between blacks and whites?

In addition, these projections demonstrate the importance of being more rigorous in the assessment of programs designed to produce racial equity in the labor market. In particular, we must recognize that changes in measures of labor market outcomes respond too slowly to be valid indicators of program effectiveness. For example, let us suppose that discrimination had been eliminated as of 1977. Now turning the clock ahead to 1985, our results suggest that we would observe that the black-white earnings ratio had risen to only .79. If we were to fail to consider how slow aggregate distributions of outcomes respond to changes in process, we might take this as evidence that blacks were still being discriminated against, when it actually is consistent with racial equity having existed since 1977.

This line of reasoning suggests that if racial equity (as of 1977) were the goal of social policy, then a (substantially refined version of a) projection such as this might actually be used as a standard for judging whether labor market processes are consistent with racial equity.[14]

At least one more point needs to be made concerning these results. There is a substantial within cohort age effect on these earnings ratios (Table 2). That is, even in a racially equitable labor market we can expect the black-white earnings ratios for cohorts to decline as they age from young adults to mid-life. This result has two important implications. First, recent evidence of high black-white earnings ratios among young men should not be taken as valid indicators of the life chances of young blacks--we can expect these ratios to decline as these men approach mid-life. Second, such a decline should not be taken as an indicator of greater racial discrimination--it appears that they would occur even in an equitable labor market.

The effects of educational equality

Although a thorough investigation of the potential effects of various forms of reverse discrimination is beyond the scope of this paper, I do briefly examine one aspect of this issue. In the context of these models, it is interesting to distinguish between two forms of reverse discrimination. First, advantages could be given to blacks in educational institutions to compensate them for their less favorable backgrounds in such a way as to eliminate racial differences in educational attainment. Second, advantages could be given to blacks in labor market institutions in such a way as to equalize racial differences in earnings. In order to assess the impact of reverse discrimination in educational institutions, I recalculated the projections based on an equitable labor market with the additional assumption that the mean level of education for blacks equals the mean level of

education for whites for all future cohorts (Table 1 and the dotted line in Figure 1). This projection suggests that reverse discrimination resulting in an equalization of educational outcomes would significantly increase the rate of convergence in labor market outcomes. However, this convergence would not be immediate--for example, it would take approximately 24 years for the earnings ratio to reach .95. Not surprisingly, the age-group specific projects (Table 4) suggest that the delay in convergence is primarily because members of existing cohorts, whose earnings will not be affected by educational equality, will remain a part of the labor force for some time. On a more positive note, it does appear that the combination of educational equality and labor market equity would produce nearly equal labor market outcomes for blacks and whites in all future cohorts.

## Conclusions

This paper is not an attempt to predict what will actually happen in the future. Instead, it represents a beginning attempt to improve our understanding of how changes in racial dimensions of labor market processes would influence racial inequality in earnings. To do this, a regression standardization procedure was used to project future levels of the black-white earnings ratio under different assumptions about labor market and educational institutions. The most interesting projections were based on the assumption of racial equity in labor market and educational institutions. The pattern of these future indicators based on this assumption suggest that there would be a significant initial reduction in racial inequality and an asymptotic convergence

toward equality. However, this convergence would not be very fast: starting from an initial value of .75 in 1977, it would take 16 years for the ratio to reach .84 and almost 50 years for it to reach .95. Thus, even if labor market and educational attainment processes were to no longer discriminate on the basis of race, the unfavorable backgrounds of blacks would result in lower levels of economic attainment for blacks than for whites well into the next century.

As a society, we are and will continue to be faced with difficult decisions concerning the issue of reverse discrimination. The outcome of this decision making process will be determined by a combination of legal issues, philosophical attitudes (for example, whether equity or equality is more highly valued), and beliefs about relevant social facts (in particular, the degree of compatibility between the two goals of equity and equality). A primary purpose of this study was to improve our level of knowledge about the relationship between racial equity and racial equality. Unfortunately, our results suggest a substantial degree of incompatibility between these two goals over the next several decades, thereby underscoring the difficulty of the problem before us.

To the extent that the goal of public policy is racial equality, the results indicate that this goal cannot be achieved without reverse discrimination.

To the extent that the goal is racial equity, the results indicate that changes in measures of labor market outcomes respond too slowly to be valid indicators of short run changes in racial discrimination. It is argued that an approach similar to that in this paper might be used as a standard for judging whether labor market processes are consistent with racial equity.

## NOTES

[1]Affirmative action represents a wide range of activities including recruiting activities, hiring goals and quotas, and enforcing equal pay for equal work. One dimension along which affirmative action activities can be assessed is the degree to which they give preferences to blacks or whites. Affirmative action efforts that do not result in preferences to blacks or whites of equal ability are consistent with the notion of labor market equity. For example, increased recruiting at black colleges that counterbalances the normal recruitment at predominantly white colleges would be consistent with labor market equity. Affirmative action efforts that give preferences to a black because of his race would constitute reverse discrimination. Thus, affirmative action goals (or, logically speaking, even a quota system) would not necessarily be reverse discrimination--it would depend upon whether the imposition of goals lead to preferences being given to blacks in terms of hiring and promotions.

[2]These variables were operationalized as follows. Father's earnings is not directly available in the PSID data. However, father's occupation (coded in 10 categories) when the respondent was 14 years old is available. Thus, to construct an indicator father's earnings (DAD), I simply used the race specific mean earnings in 1970 for the respondent's father's occupation (U. S. Bureau of Census, 1973: Tables 1 and 2). Education (EDUC) was coded as the number of years of school completed. Southern origins (SOUTH) was coded 1 if the respondent resided in the South; 0, otherwise. Farm origins (FARM) was coded 1 if the respondent's father had a farm related occupation; 0, otherwise. AGE is the respondent's age in 1977. RACE was coded as 1 if the respondent is black; 0, otherwise.

[3]More specifically, respondents were included if (1) they worked at least 1400 hours and had data present for earnings in either 1968 or 1969, (2) they worked at least 1400 hours and had data present for earnings in either 1976 or 1977, and (3) they had data present for education. For missing data on other variables, the race specific mean was substituted. If a respondent worked 1400 hours and had data available for earnings for only one of the two years being averaged (say 1976 but not 1977), then the earnings for that year was used as the measure of earnings.

[4]More specifically, the equation is:

$$EDUC_{ijs} = \theta_{1js} + \theta_{2js}\, DAD_{ijs} + \theta_{3js}\, SOUTH_{ijs} + \theta_{4js}\, FARM_{ijs} + \theta_{5js}\, AGE_{ijs} + v_{ijs}$$

for $j = 1, 2$ and where $v_{ijs}$ is the residual term for individual $i$ in age group $j$ and track $s$.

[5]It was assumed (1) that the average age of newly entering cohorts in the future would be about the same as the average age of cohorts entering between 1968 and 1977, (2) that there would be a slow trend toward a smaller proportion of men having farm origins, and (3) there would be a declining number of blacks with southern origins. The results of some sensitivity analyses suggested that the projections were not very sensitive to the level of these variables that were specified.

[6]Specifically, I estimate the following equation on the six existing cohorts:

$$DAD_{kw} = \emptyset_1 + \emptyset_2\, k + w_k \ ,$$

for k = 1, ..., 6, where $W_k$ is a disturbance term. I then calculate the values for all future cohorts as follows:

$$\overline{DAD}_{kw} = \hat{\emptyset}_1 + \hat{\emptyset}_2\, k \ .$$

Then within each future cohort, the values of DAD for track 1 and track 2 are adjusted so that the percentage differences between tracks equals the average track difference in the two youngest existing cohorts.

[7]More specifically, $\overline{DAD}$ for future blacks in cohort k and track s was calculated as

$$\overline{DAD}_{kb} = DAD_{kw} \cdot \frac{\sum_{m=2}^{5} W_{k+m}\, \overline{E}_{k+m,\, tb}}{\sum_{m=2}^{5} W_{k+m}\, \overline{E}_{k+m,\, tb}}$$

where t represents the time period in which cohort k is in age group 9-16, and $W_{k+m}$ = .1, .4, .3, .2 for m = 2, 3, 4, 5 respectively, is a weight factor. The results of some sensitivity analyses suggest that these projections are not overly sensitive to my choice of weights. The earnings levels of the "representative fathers" for the period in which their sons became 9-16 were used to maximize the correspondence to the timing of the measurement of DAD for existing cohorts.

[8]Specifically, values for education is calculated as:

$$\overline{EDUC}_{tkrs} = \hat{\theta}_{1j^*s} + \hat{\theta}_{2j^*s}\, \overline{DAD}_{krs} + \hat{\theta}_{3j^*s}\, \overline{SOUTH}_{krs} + \hat{\theta}_{4j^*s}\, \overline{FARM}_{krs} + \hat{\theta}_{5j^*s}\, \overline{AGE}_{kj^*rs}$$

where the $\theta$'s are the estimated parameters of the equation in footnote 4 and j* is the minimum of 2 and the age group of cohort k in time period t.

[9]The weights were obtained by averaging across the two youngest existing cohorts for a pooled sample of blacks and whites. These weights are .654 for track 1 and .346 for track 2.

[10]For each time period these race specific means are calculated as a weighted average of the age group means. The four middle age groups were assigned a weight of 1.0, the oldest age group was assigned a weight of .5, and the youngest age group was assigned a weight of .33 to roughly correspond to their representation among employed men.

[11]Since father's earnings and education depend upon the relative earnings of older cohorts, the values of these explanatory variables are different under the assumption of labor market inequity than labor market equity.

[12]This problem is exacerbated by the fact that there are very large differences in the sampling weights across individuals. Because of the sampling scheme (Morgan, 1972: Volume 1: 9-24), a few blacks get very high weights relative to other blacks. For example, over half of the sum of the weights in the sample of blacks aged 57-64 is accounted for by 9 individuals.

[13]The potential effects of this are not straightforward. One possible result of deteriorating economic conditions is to increase the likelihood that blacks, relative to whites, will be unemployed or out of the labor force. Since all such individuals are eliminated from our analysis, this would not affect our results directly, although it could exacerbate the problem of sample selection bias. Also, there is evidence that discrimination is more pronounced (translating into a more highly negative race coefficient) during declining economic conditions. This will not affect projections based on the equity assumption since discrimination is eliminated. However, it may have caused the black-white earnings ratios based on the inequity assumption to be lower than they might otherwise have been.

[14]Of course, any given standard is specific to a given starting point for racial equity. Thus, if one desired a standard in terms of racial inequality in 1993 based on labor market equity since 1985, one would have to redo the analysis imposing racial equity in 1985 instead of 1977.

Figure 1 Projected Black-White Earnings Ratios Under Different Labor Market Assumptions

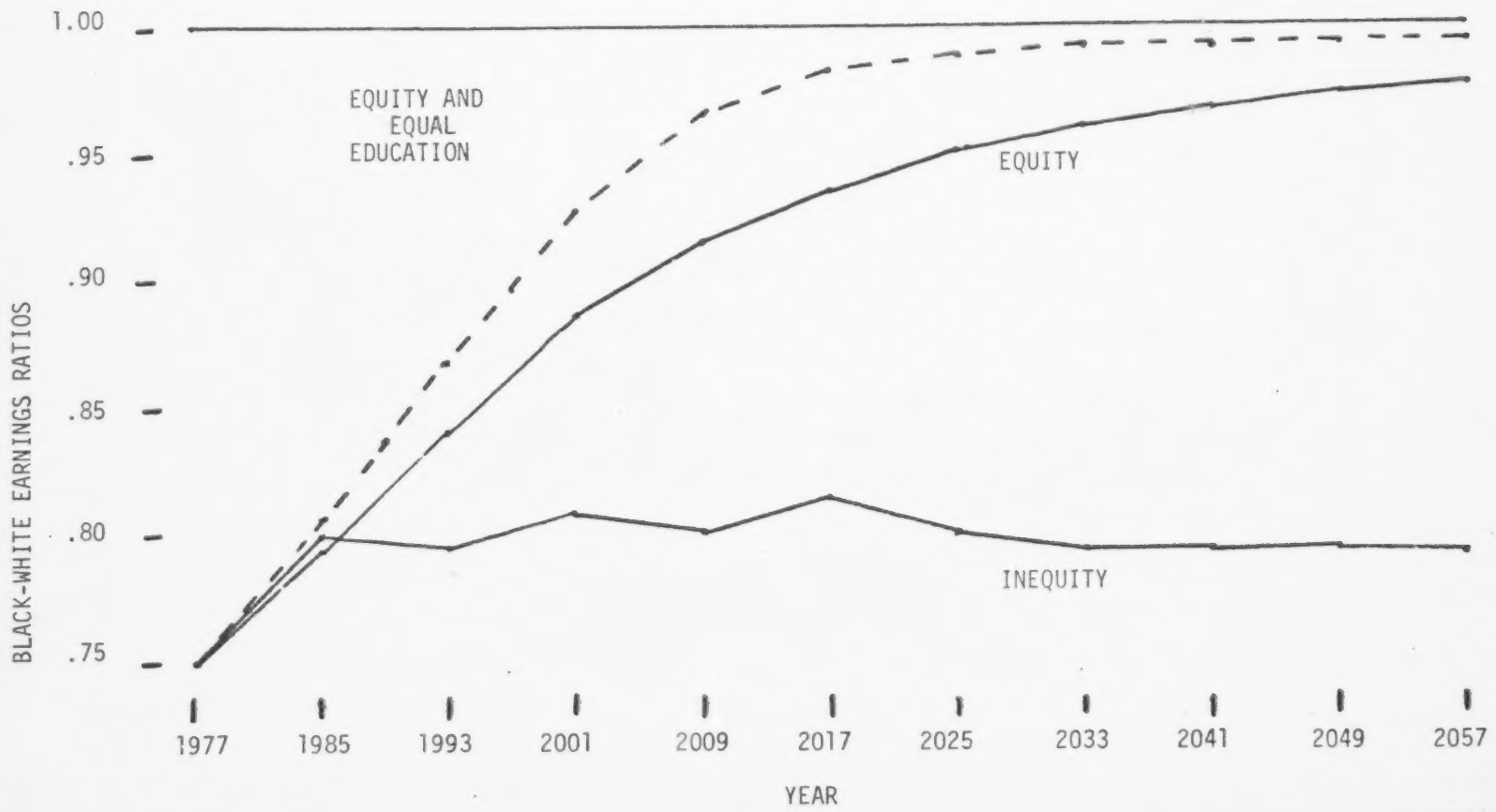

Table 1 Projected Black-White Earnings Ratios Under Different Assumptions About Labor Market Equity and Education Equality

| Year | Assumptions | | |
|---|---|---|---|
| | Racial Equity | Racial Inequity | Racial Equity and Equal Education |
| 1977 | .75 | .75 | .75 |
| 1985 | .79 | .80 | .80 |
| 1993 | .84 | .79 | .87 |
| 2001 | .89 | .81 | .93 |
| 2009 | .91 | .80 | .96 |
| 2017 | .93 | .81 | .98 |
| 2025 | .95 | .80 | .99 |
| 2033 | .96 | .79 | .99 |
| 2041 | .97 | .79 | .99 |
| 2049 | .97 | .79 | .99 |
| 2057 | .98 | .79 | .99 |
| ⋮ | ⋮ | ⋮ | ⋮ |
| 2105 | .99 | .78 | .99 |

Table 2 Projected Black-White Earnings Ratios Under Labor Market Equity by Age Group and Period[a]

| Year | Age Group | | | | | |
|---|---|---|---|---|---|---|
| | 17-24 | 25-32 | 33-40 | 41-48 | 49-56 | 57-64 |
| 1977 | .825 | .808 | .699 | .654 | .826 | .758 |
| 1985 | .978 | .861 | .779 | .783 | .700 | .860 |
| 1993 | .978 | .938 | .800 | .847 | .816 | .753 |
| 2001 | .978 | .948 | .889 | .845 | .882 | .844 |
| 2009 | .980 | .958 | .906 | .910 | .878 | .923 |
| 2017 | .982 | .965 | .925 | .925 | .927 | .916 |
| 2025 | .983 | .970 | .941 | .942 | .939 | .950 |
| 2033 | .984 | .974 | .951 | .957 | .951 | .957 |
| 2041 | .986 | .977 | .961 | .966 | .962 | .965 |
| 2049 | .986 | .979 | .967 | .974 | .969 | .972 |
| 2057 | .987 | .981 | .971 | .979 | .975 | .976 |
| 2065 | .987 | .982 | .974 | .983 | .979 | .980 |
| 2073 | .988 | .983 | .977 | .985 | .982 | .983 |
| 2081 | .988 | .984 | .979 | .988 | .984 | .985 |
| 2089 | .989 | .985 | .982 | .989 | .986 | .986 |
| 2097 | .989 | .986 | .983 | .991 | .988 | .988 |
| 2105 | .990 | .986 | .984 | .991 | .989 | .988 |

[a]Within cohort projections are across northwest-southeast diagonals.

Entries above and to the right of the dotted line refer to men who entered the labor market prior to racial equity. Entries below and to the left of the dotted line refer to men who entered the labor market subsequent to racial equity.

Table 3 Projected Black-White Ratios for Father's Earnings by Year of Cohort's Entry into the Labor Market

| Year | Assumptions | | |
|---|---|---|---|
| | Racial Equity | Racial Inequity | Racial Equity and Equal Education |
| 1977 | .53 | .53 | .53 |
| 1985 | .72 | .72 | .72 |
| 1993 | .77 | .76 | .78 |
| 2001 | .83 | .74 | .87 |
| 2009 | .88 | .75 | .93 |
| 2017 | .90 | .75 | .96 |
| 2025 | .93 | .76 | .98 |
| 2033 | .94 | .76 | .98 |
| 2041 | .95 | .76 | .99 |
| 2049 | .96 | .75 | .99 |
| 2057 | .97 | .75 | .99 |
| ⋮ | ⋮ | ⋮ | ⋮ |
| 2096 | .98 | .75 | .99 |

Table 4 Projected Black-White Earnings Ratios Assuming Labor Market Equity and Equal Levels of Education by Age Group and Period[a]

| Year | Age Group | | | | | |
|---|---|---|---|---|---|---|
| | 17-24 | 25-32 | 33-40 | 41-48 | 49-56 | 57-64 |
| 1977 | .825 | .808 | .699 | .654 | .826 | .758 |
| 1985 | .993 | .922 | .779 | .783 | .700 | .860 |
| 1993 | .991 | .985 | .887 | .847 | .816 | .753 |
| 2001 | .988 | .987 | .950 | .937 | .882 | .844 |
| 2009 | .987 | .987 | .957 | .971 | .964 | .922 |
| 2017 | .987 | .987 | .969 | .979 | .986 | .933 |
| 2025 | .988 | .987 | .979 | .986 | .987 | 1.002 |
| 2033 | .988 | .987 | .983 | .993 | .990 | 1.000 |
| 2041 | .989 | .988 | .986 | .996 | .993 | .997 |
| 2049 | .989 | .988 | .987 | .998 | .994 | .995 |
| 2057 | .989 | .988 | .989 | .998 | .995 | .994 |
| 2065 | .989 | .989 | .989 | .999 | .995 | .994 |
| 2073 | .990 | .989 | .990 | .999 | .996 | .994 |
| 2081 | .990 | .990 | .990 | .999 | .996 | .994 |
| 2089 | .991 | .990 | .991 | .999 | .996 | .994 |
| 2097 | .991 | .991 | .991 | .999 | .996 | .994 |
| 2105 | .991 | .991 | .992 | 1.000 | .996 | .994 |

[a]Within cohort projections are across northwest-southeast diagonals.

Entries above and to the right of the dotted line refer to men who entered the labor market prior to racial equity. Entries below and to the left of the dotted line refer to men who entered the labor market subsequent to racial equity.

## REFERENCES


Burstein, P. 1979. Equal employment opportunity legislation and the income of women and nonwhites. American Sociological Review 44 (June): 367-391.

Daymont, T. N. 1980a. Changes in black-white labor market opportunities, 1966-1976. In H. Parnes et al. From the Middle to the Later Years: Longitudinal Studies of the Preretirement and Postretirement Experiences of Men. Cambridge, Mass.: MIT Press.

Daymont, T. N. 1980b. Changes in black-white opportunities among young men: earnings and unemployment. Paper to be presented at American Statistical Association meetings, Houston.

Duncan, O. D. 1969. Inheritance of poverty or inheritance of race. Pp. 85-110 in D. P. Moynihan (ed.) On Understanding Poverty. New York: Basic Books.

Farley, R. 1977. Trends in racial inequalities: have the gains of the 1960's disappeared in the 1970's? American Sociological Review 42 (April): 189-207.

Farley, R. 1979. Racial progress in the last two decades: what can we determine about who benefitted and why? Paper presented at the American Sociological Association meetings, Boston.

Featherman, D. L., and R. M. Hauser 1978. Opportunity and Change. New York: Academic Press.

Freeman, R. B. 1973. Changes in the labor market for black Americans, 1948-1972. Brookings Papers on Economic Activity 1 (Summer): 67-131.

Freeman, R. B. 1977. Political power, desegregation, and employment of black school teachers. Journal of Political Economy 85: 299-322.

Gross, B. R. 1977. Reverse Discrimination. Buffalo, N.Y.: Prometheus Books.

Johnson, M. P. and R. R. Sell. 1976. The cost of being black: a 1970 update. American Journal of Sociology 82 (July): 183-90.

Lazear, E. 1979. The Narrowing of Black-White Wage Differentials Is Illusory. American Economic Review 69 (September): 553-564.

Levy, M. 1966. Modernization and the Structure of Societies. Princeton, N.J.: Princeton University Press.

Lieberson, S. and G. V. Fuguitt. 1967. Negro-white occupational differences in the absence of discrimination. American Journal of Sociology 73 (September): 188-200.

Lopatka, K. T. 1977. Developing concepts in Title VII law. In L. J. Hausman, et al. (eds.) Equal Rights and Industrial Relations. Madison, Wisc.: Industrial Relations Research Association.

Morgan, J. 1972-1977. A panel study of income dynamics: study design, procedures, available data, Volume 1-9. Ann Arbor, Michigan: Institute for Social Research, Survey Research Center.

National Urban League. 1980. The State of Black America 1980.

Siegel, P. M. 1965. On the cost of being a Negro. Sociological Inquiry 35 (Winter) 41-57.

Smith, J. D. and F. R. Welch. 1978. Race differences in earnings: a survey and new evidence. Santa Monica, Calif.: The Rand Corporation.

U.S. Bureau of the Census. 1973. Census of the Population: 1970. Subject Reports. Final Report PC(2)-8B. Earnings by Occupation and Education. Washington, D.C.: U.S. Government Printing Office.

U.S. Commission on Civil Rights. 1977. The Federal Civil Rights Enforcement Effort-1977. Washington, D.C.: U.S. Commission on Civil Rights.

U.S. Commission on Civil Rights. 1978. Social Indicators of Equality for Minorities and Women. Washington, D.C.: U.S. Commission on Civil Rights.

Wilson, J. W. The Declining Significance of Race: Blacks and Changing American Institutions. Chicago: University of Chicago Press.

# APPENDIX TABLES

Table A-1 Estimated Parameter for Earnings Attainment Process

| Explanatory Variable | Age Group | | | | | | |
|---|---|---|---|---|---|---|---|
| | 17-24 track 2 | 25-32 track 1 | 25-32 track 2 | 33-40 | 41-48 | 49-56 | 57-64 |
| | Panel A Labor Market Equity | | | | | | |
| $E_{69}$ | - | - | .7876* | .8231* | .6435* | .8368* | .8305* |
| EDUC | 159.3* | 241.6* | 562.2* | 338.2* | 293.7* | 79.09 | 21.01 |
| DAD | -10.73 | 95.49* | -245.2* | 137.9* | 25.45 | -51.08 | -67.98 |
| SOUTH | -365.1* | -369.1** | -743.6** | -170.7 | 465.3 | -313.1 | -207.4 |
| FARM | 827.4* | -1072* | -410.5 | 958.0* | -84.73 | 291.6 | -266.5 |
| AGE | 291.8* | 216.59* | -2.39 | 40.54 | -6.548 | -132.4* | -115.3** |
| RACE | -848.8* | -329.2 | -929.9 | -600.8 | -446.1 | 1027.5 | 307.0 |
| CONSTANT | -3198 | -2895 | -482.9 | -4069 | -50.86 | 8157 | 8852 |
| n | 649 | 508 | 207 | 406 | 400 | 383 | 213 |
| $\bar{R}^2$ | .1220 | .1395 | .2029 | .4283 | .4774 | .5971 | .6490 |
| | Panel B Labor Market Inequity - Whites | | | | | | |
| $E_{69}$ | - | - | .8907* | .8313* | .6287* | .8333* | .8344* |
| EDUC | 146.5* | 210.8* | 550.6* | 348.4* | 313.9* | 78.55 | -1.663 |
| DAD | -8.19 | 98.67* | -252.1* | 137.4** | 22.49 | -46.74 | -50.34 |
| SOUTH | -291.4 | -499.1** | -1021** | -268.7 | 479.4 | -401.3 | -196.1 |
| FARM | 971.1* | -1181* | -268.2 | 944.3** | -334.8 | 431.9 | -310.0 |
| AGE | 293.0* | 236.9* | -73.38 | 50.83 | -37.85 | -153.4* | -129.6 |
| CONSTANT | -3118 | -3011 | 1444 | -4603 | 1323 | 9240 | 9777 |
| n | 419 | 333 | 158 | 302 | 296 | 292 | 159 |
| $\bar{R}^2$ | .0981 | .1228 | .2170 | .4184 | .4559 | .5902 | .6495 |

Table A-1 (continued)

| Explanatory Variable | Age Group | | | | | | |
|---|---|---|---|---|---|---|---|
| | 17-24 track 2 | 25-32 track 1 | 25-32 track 2 | 33-40 | 41-48 | 49-56 | 57-64 |
| | Panel C Labor Market Inequity - Blacks | | | | | | |
| $E_{69}$ | - | - | -.2700 | .5451* | .6990* | .9221* | .8851* |
| EDUC | 312.9* | 405.5* | 384.5* | 180.3** | 139.6* | 57.84 | 131.4** |
| DAD | -115.0** | 74.91 | 323.9 | -33.44 | 109.5 | -47.54 | -1114* |
| SOUTH | -728.6* | 541.3 | 920.3 | 635.4 | -160.4 | 1486* | -3904* |
| FARM | -763.6* | -390.2 | 1477 | -73.40 | 1478* | -1346 | -2945 |
| AGE | 265.3* | 46.25 | 94.92 | -71.77 | 312.0* | -1.26 | 7.01 |
| CONSTANT | -4292* | -1356 | -2725 | 3776 | -14043 | 1070 | 10612 |
| n | 230 | 175 | 49 | 104 | 104 | 91 | 54 |
| $\bar{R}^2$ | .3492 | .1111 | .4935 | .2632 | .6813 | .7190 | .4889 |

* Coefficient significant at the .05 level.

**Coefficient significant at the .10 level but not at the .05 level.

Table A-2 Estimated Parameters for Educational Attainment Process

| Explanatory Variable | Age Group and Track | | | |
|---|---|---|---|---|
| | 17-24 track 1 | 17-24 track 2 | 25-32 track 1 | 25-32 track 2 |
| DAD | .0287* | .1376* | .2325* | .3469* |
| SOUTH | -.0177 | -.2408* | -.2137 | -.5439* |
| FARM | -.0644 | -.1171 | .0504 | .9281* |
| AGE | .7371* | .3641* | .2594* | -.0091 |
| CONSTANT | -3.444 | 2.947 | 4.449 | 9.710 |
| n | 979 | 649 | 508 | 207 |
| $\bar{R}^2$ | .5913 | .2280 | .1884 | .1592 |

Table A-3 (continued)

| Year of entry and race | Explanatory Variable* | | | | | |
|---|---|---|---|---|---|---|
| | EQUITY | | INEQUITY | | | |
| | EDUC** | DAD | EDUC** | DAD | SOUTH | FARM |
| 2025 | | | | | | |
| White | 13.77 | 11.19 | 13.77 | 11.19 | .28 | .04 |
| Black | 13.51 | 10.39 | 12.99 | 8.49 | .44 | .043 |
| 2033 | | | | | | |
| White | 13.80 | 11.31 | 13.80 | 11.31 | .28 | .04 |
| Black | 13.58 | 10.67 | 13.01 | 8.56 | .43 | .043 |
| 2041 | | | | | | |
| White | 13.84 | 11.44 | 13.84 | 11.44 | .28 | .04 |
| Black | 13.65 | 10.92 | 13.04 | 8.64 | .42 | .043 |
| 2049 | | | | | | |
| White | 13.87 | 11.56 | 13.87 | 11.56 | .28 | .04 |
| Black | 13.72 | 11.15 | 13.06 | 8.73 | .42 | .043 |
| 2057 | | | | | | |
| White | 13.91 | 11.69 | 13.91 | 11.69 | .28 | .04 |
| Black | 13.77 | 11.34 | 13.09 | 8.82 | .41 | .043 |
| 2065 | | | | | | |
| White | 13.94 | 11.82 | 13.94 | 11.82 | .28 | .04 |
| Black | 13.82 | 11.53 | 13.11 | 8.90 | .41 | .043 |
| 2073 | | | | | | |
| White | 13.96 | 11.96 | 13.96 | 11.96 | .28 | .04 |
| Black | 13.87 | 11.69 | 13.14 | 8.98 | .40 | .043 |
| 2081 | | | | | | |
| White | 14.01 | 12.08 | 14.01 | 12.08 | .28 | .04 |
| Black | 13.91 | 11.86 | 13.16 | 9.07 | .40 | .043 |
| 2089 | | | | | | |
| White | 14.05 | 12.21 | 14.05 | 12.21 | .28 | .04 |
| Black | 13.96 | 12.01 | 13.19 | 9.16 | .38 | .043 |
| 2096 | | | | | | |
| White | 14.08 | 12.35 | 14.08 | 12.35 | .28 | .04 |
| Black | 14.00 | 12.17 | 13.21 | 9.24 | .38 | .043 |

* AGE at time of entry is 20.543, averaging across tracks.

**EDUC shown is value attained by age 25-32.

Table A-4 Projected Black-White Earnings Ratios Under Labor Market Inequity by Age Group and Period[a]

| Year | Age Group | | | | | |
|---|---|---|---|---|---|---|
| | 17-24 | 25-32 | 33-40 | 41-48 | 49-56 | 57-64 |
| 1977 | .825 | .808 | .699 | .654 | .826 | .758 |
| 1985 | .809 | .764 | .728 | .760 | .823 | 1.016 |
| 1993 | .808 | .822 | .684 | .697 | .887 | .968 |
| 2001 | .812 | .838 | .710 | .671 | .865 | 1.115 |
| 2009 | .812 | .832 | .715 | .709 | .812 | 1.071 |
| 2017 | .812 | .833 | .710 | .714 | .849 | 1.120 |
| 2025 | .811 | .836 | .707 | .706 | .856 | .988 |
| 2033 | .811 | .839 | .706 | .705 | .850 | .951 |
| 2041 | .812 | .840 | .705 | .705 | .847 | .966 |
| 2049 | .810 | .841 | .703 | .706 | .846 | .960 |
| 2057 | .811 | .842 | .700 | .705 | .845 | .950 |
| 2065 | .809 | .843 | .699 | .704 | .842 | .937 |
| 2073 | .810 | .845 | .697 | .703 | .840 | .931 |
| 2081 | .808 | .846 | .695 | .702 | .839 | .926 |
| 2089 | .808 | .848 | .693 | .702 | .837 | .917 |
| 2096 | .807 | .849 | .692 | .701 | .836 | .910 |
| 2105 | .807 | .850 | .689 | .700 | .834 | .902 |

[a]Within cohort projections are across northwest-southeast diagonals.

Entries above and to the right of the dotted line refer to men who entered the labor market prior to racial equity. Entries below and to the left of the dotted line refer to men who entered the labor market subsequent to racial equity.

## The Center for Human Resource Research

The Center for Human Resource Research is a policy-oriented research unit based in the College of Administrative Science of The Ohio State University. Established in 1965, the Center is concerned with a wide range of contemporary problems associated with human resource development, conservation and utilization. The personnel include approximately twenty senior staff members drawn from the disciplines of economics, education, health sciences, industrial relations, management science, psychology, public administration, social work and sociology. This multidisciplinary team is supported by approximately 50 graduate research associates, full-time research assistants, computer programmers and other personnel.

The Center has acquired pre-eminence in the fields of labor market research and manpower planning. The National Longitudinal Surveys of Labor Force Behavior have been the responsibility of the Center since 1965 under continuing support from the United States Department of Labor. Staff have been called upon for human resource planning assistance throughout the world with major studies conducted in Bolivia, Ecuador and Venezuela, and recently the National Science Foundation requested a review of the state of the art in human resource planning. Senior personnel are also engaged in several other areas of research including collective bargaining and labor relations, evaluation and monitoring of the operation of government employment and training programs and the projection of health education and facility needs.

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The largest of the current projects is the National Longitudinal Surveys of Labor Force Behavior. This project involves repeated interviews over a fifteen year period with four groups of the United State population; older men, middle-aged women, and young men and women. The data are collected for 20,000 individuals by the U.S. Bureau of the Census, and the Center is responsible for data anlysis. To date dozens of research monographs and special reports have been prepared by the staff. Responsibilities also include the preparation and distribution of data tapes for public use. Beginning in 1979, an additional cohort of 12,000 young men and women between the ages of 14 and 21 will be studied on an annual basis for the following five years. Again the Center will provide analysis and public use tapes for this cohort.

The Quality of Working Life Project is another ongoing study operated in conjunction with the cities of Springfield and Columbus, in an attempt to improve both the productivity and the meaningfulness of work for public employees in these two municipalities. Center staff serve as third party advisors, as well as researchers, to explore new techniques for attaining management-worker cooperation.

(continued on inside of back cover)

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Another focus of research is collective bargaining. In a project for the U.S. Department of Labor, staff members are evaluating several current experiments for "expedited grievance procedures," working with unions and management in a variety of industries. The procedural adequacies, safeguards for due process, cost and timing of the new procedure are being weighed against traditional arbitration techniques.

Senior staff also serve as consultants to many boards and commissions at the national and state level. Recent papers have been written for the Joint Economic Committee of Congress, The National Commission for Employment and Unemployment Statistics, The National Commission for Manpower Policy, The White House Conference on the Family, the Ohio Board of Regents, the Ohio Governor's Task Force on Health, and the Ohio Governor's Task Force on Welfare.

The Center maintains a working library of approximately 9,000 titles which includes a wide range of reference works and current periodicals. Also provided are computer facilities linked with those of the University and staffed by approximately a dozen computer programmers. They serve the needs of in-house researchers and users of the National Longitudinal Survey tapes.

For more information on specific Center activities or for a copy of the Publications List, write: Director, Center for Human Resource Research, Suite 585, 1375 Perry Street, Columbus, Ohio 43201.